Nahar 09/727,846

FILE 'COMPUAB, COMPUSCIENCE, CONFSCI, CONF, ELCOM, INFODATA, RUSSCI, SIGLE, RDISCLOSURE' ENTERED AT 09:19:03 ON 10 FEB 2004

L1 19892 SEA CHARACTER# OR TOKEN# OR SUBSTRING? OR SUBSEQUENCE?
L2 451219 SEA PARAMETER# OR VARIABLE# OR NAME OR NAMES OR FILENAME? OR NUMBER# OR ALPHABET? OR NUMERIC? OR ALPHANUMERIC? OR DIGIT# OR INTEGER#
L3 264 SEA (L1 OR L2) (3N) COMPIL?
L4 7042 SEA (L1 OR L2) (3N)(SUBSTITUT? OR REPLAC? OR CHANG? OR ALTERNATIVE? OR SWAP? OR TRANSLAT? OR SHUFFL? OR MORPH? OR REFORMAT? OR RE(W) FORMAT?)
L5 8638 SEA (L1 OR L2) (3N)(CONFIGUR? OR RECONFIGUR? OR ADAPT? OR CONVERT? OR CONVERSION? OR TRANSFORM? OR TRANSMUT? OR TRANSPOS? OR EXCHANG? OR SWITCH?)
L6 1929 SEA (L1 OR L2) (3N)(EDIT? OR REDEFIN? OR REASSIGN? OR RE(W)(DEFIN? OR ASSIGN?) OR ALTER# OR ALTERED OR ALTERR? OR ALTERING OR ALTERATION? OR MODIF?)
L7 4827 SEA (SINGLE OR ONE OR SOLITARY OR SOLE)(2W) (L1 OR L2)
L8 70 SEA L7(3N)(REDN# OR REDUC? OR CONDENS? OR COMPACT? OR COMPRESS? OR SHRINK? OR DECRE? OR SHRUNK? OR DIMINISH? OR TRIM? OR PRUN? OR MINIMIS? OR MINIMIZ? OR SHORT?)
L9 1 SEA L7(3N) CONTRACT?
L10 6 SEA (L3 OR L4 OR L5 OR L6) AND (L8 OR L9)
L11 5 SEA L10 NOT 2000-2004/PY

L11 ANSWER 1 OF 5 COMPUAB COPYRIGHT 2004 CSA on STN
86:12848 Conjugate gradient algorithms in nonlinear structural analysis problems.. Papadrakakis, M.; Ghionis, P.. Inst. Struct. Anal., Natl. Tech. Univ., Athens (147), Greece. COMP. METHODS APPL. MECH. ENG. (1986) vol. 59, no. 1, pp. 11-28. Language: English. Summary Language: English.
AB The convergence properties of a number of different versions of the conjugate gradient algorithm are tested when applied to the solution of sets of nonlinear equations with a sparse, symmetric, and positive-definite Jacobian as encountered in nonlinear structural analysis. Consideration is given, on the convergence properties of the algorithm, to the effect of the **one-variable minimization** routine and its accuracy as well as to the **replacement** of the **one-variable minimization** by a stability test. The evaluation of the performance of the algorithms is realized on a variety of test problems combining different structural characteristics.

L11 ANSWER 2 OF 5 COMPUSCIENCE COPYRIGHT 2004 FIZ KARLSRUHE on STN
AN 1996(10):CS4573 COMPUSCIENCE
TI Using constraint logic programming for industrial scheduling problems.
AU Breitinger, Silvia; Lock, Hendrik, C. R.
SO Logic programming: formal methods and practical applications.
Editor(s): Beierle, Christoph et al.
Amsterdam: Elsevier. 1995. p. 273-299
Ser. Title: Studies in Computer Science and Artificial Intelligence. (1995) v. 11 p. 273-299.
ISBN: 0-444-82092-2
DT Book Article
TC Methodical
CY Netherlands
LA English
IP FIZKA
AB The article reports on using constraint logic programming with finite domain constraints for solving industrial scheduling problems. We show how scheduling problems can be modelled by a set of constraints in a very flexible and declarative way, and further, that such an approach can be

used efficiently even for large data sets if suitable measures are taken to control the search. Three aspects are shown to be crucial for efficient computation: The first aspect is a representation of disjunctive constraints that postpones decisions which are likely to cause backtracking if taken too early. The second aspect is a heuristic for the selection order of variables minimizing the amount of backtracking by guiding the search towards promising solutions. The third aspect is the use of a suitable strategy restricting the maximum number of alternatives being tried for one variable, thus directly reducing the search space.

L11 ANSWER 3 OF 5 COMPUSCIENCE COPYRIGHT 2004 FIZ KARLSRUHE on STN
AN 1975(2):AC59587 COMPUSCIENCE
TI Algorithms for fast evaluation of Boolean expressions.
AU Breitbart, Y.; Reiter, A.
SO ACTA Informatica. (1975) vol. 4(2) p.107-116.
DT Journal
LA English
IP ACM-CR
DN 7502-9587
AB Boolean expressions often arise in the implementation of query languages over large data bases. In these cases, the evaluation of such expressions may involve the time-consuming task of obtaining data values stored on secondary devices. Hence, it is advantageous to find optimal evaluation sequences which minimize the number of variables examined. The construction of optimal evaluation sequences (expressed as binary trees) is the subject of this paper. The Boolean expressions considered here are assumed to be monotonic; that is, negation is not allowed. Also, the expressions are in disjunctive normal form. The described algorithm specifies a rule for picking a variable in the expression, substituting in its value, and obtaining a new expression with one less variable. Ultimately, the procedure reduces the original expression to a single Boolean value. Unfortunately, the algorithm does not guarantee optimality. However, several lemmas are given as evidence that the procedure has the correct starting strategy. Although no results concerning time complexity are given, it appears the algorithm is linear in n, where {\it n} is the total number of variables (not necessarily unique) in the expression. A fruitful area of research is the investigation of whether or not the general problem is NP-complete. Such an argument would necessarily involve finding evaluation trees with minimum depth properties. In addition, since the described algorithm is suboptimal, it would be interesting to analyze its worst-case behavior, measured by the ratio of the worst solution value that can be chosen by the algorithm to the optimal value.

L11 ANSWER 4 OF 5 ELCOM COPYRIGHT 2004 CSA on STN
97:878 Knowledge-based parameter estimation for identification and equalization of storage channels. Shafiee, Hamid; Moon, Jaekyun. Univ of Minnesota, Minneapolis, MN, USA. IEEE TRANS MAGN (1996) vol. 32, no. 4 pt 2, pp. 3274-3282. ISSN: 0018-9464.Language: English.
AB The emerging sampling detectors in digital magnetic recording require precise filtering of the readback signal. In this paper, we propose a technique for fast estimation of the channel response from which the filter coefficients are calculated. Utilizing the a priori knowledge about the general shape of the transition response in magnetic recording, the channel identification problem is **reduced** to estimation of **one** or more **parameters**. Specifically, the pulse width at half of the transition response peak magnitude is first estimated. The algorithm is then extended to include more practical cases. It is shown that this simplified approach has much faster convergence rate than the direct least-mean-square channel identification method. Once the algorithm converges, the estimates can be used to select or compute an appropriate set of equalizer coefficients or to **modify** the decoder

parameters. We will describe methods for recursive filter design based on the estimated channel for partial response as well as decision feedback systems.

L11 ANSWER 5 OF 5 RDISCLOSURE COPYRIGHT 2004 KENNETH MASON PUBL. on STN
AN 284021 RDISCLOSURE
TI Exponent equate and magnitude comparison of floating point numbers
PA Anonymous
PI RD 284021 19871210
PRAI RD1987-284021 19871120
SO Research Disclosure, 1987 12, 284
CODEN: RSDSBB; ISSN: 0374-4353
DT Patent
GIS 39044
TX. . . in a multiply/quotient (M/Q) register and the smaller number is placed in one of two registers used for floating point **conversion** . The two **numbers** are then concatenated. Hardware controls, in conjunction with the microword loop controls, shift the registers right **one** hexadecimal **character** and **decrements** the exponent of the M/Q register each cycle until the exponent in the M/Q register and the exponent in the. . .

algebraic expression, it may now be changed, if desired, to say, a Boolean expression or a **number**. The precompiler tool **replaces** previous instrumentation statements for the loop with new ones, and the program is recompiled and rerun.
If the response to the. . . in C, C++) and the conversion of one form to another is a well known art to those trained in **compiler** writing. Therefore implementation of the method as described above can be done by those skilled-in-the-art.
Disclosed anonymously

=>

```
L1        19892 SEA CHARACTER# OR TOKEN# OR SUBSTRING? OR SUBSEQUENCE?
L2       451219 SEA PARAMETER# OR VARIABLE# OR NAME OR NAMES OR FILENAME? OR
                 NUMBER# OR ALPHABET? OR NUMERIC? OR ALPHANUMERIC? OR DIGIT# OR
                 INTEGER#
L3          264 SEA (L1 OR L2) (3N) COMPIL?
L12           7 SEA "BERA R"/AU
L13          10 SEA "BERA R K"/AU
L14          15 SEA BERA/BI
L15          32 SEA (L12 OR L13 OR L14)
L16           2 SEA L15 AND (SYNTAX? OR SYNTACT? OR COMPIL? OR (L3 OR L4 OR L5
                 OR L6) OR (L8 OR L9))


=> d l16 bib abs 1

L16  ANSWER 1 OF 2  COMPUAB    COPYRIGHT 2004 CSA on STN
AN   1998:8287  COMPUAB
TI   Recursive least squares modelling: empirical evidence from the Finnish and
     Japanese markets
AU   Hoglund, Rune; Ostermark, Ralf
SO   KYBERNETES, (19970000) vol. 26, no. 8, pp. 893-907.
     ISSN: 0368-492X.
DT   Journal
FS   C
LA   English
AB   Previous evidence suggests that the relationship between different stock
     markets is unstable over time. In particular, the Finnish and Japanese
     financial economies are interrelated and exhibit non-linear behaviour.
     Presents an approximation of the influence of the Japanese stock market on
     the Finnish derivatives market by an adaptive recursive least squares
     (RLS) algorithm. The parameters are allowed to change
     over time through a discounting factor, thus providing a convenient means
     for recognizing past information to a specified degree. Following the
     reasoning of Bera et al. (1992), shows that the RLS algorithm
     is, theoretically, able to cope with conditional heteroscedasticity.
     Compares the results with different values on the discount factor and when
     choosing a suitable value the ARCH-like effects in the residuals seem to
     vanish. On the other hand, some new peculiarities in the RLS residuals
     emerge when ARCH effects are eliminated. The results indicate that the
     standard RLS algorithm combined with a proper specification of the
     discount factor could be useful in studying relationships of this kind.


=> d l16 bib kwic 2

L16  ANSWER 2 OF 2  RDISCLOSURE COPYRIGHT 2004  KENNETH MASON PUBL.  on STN
AN   450096   RDISCLOSURE
TI   A method for instrumenting computer programs to check for infinite looping
PA   Anonymous
PI   RD 450096   20011010
PRAI RD2001-450096   20010920
SO   Research Disclosure, 2001 10, 450
     CODEN: RSDSBB; ISSN: 0374-4353
DT   Patent
GIS  30060; 20864; 45964
TX   XXXXXX
     A method for instrumenting computer programs to check for infinite looping
     Rajendra K. Bera
     IBM Global Services, Golden Enclave, Airport Road, Bangalore 560 017,
     India.
     Key words: Program testing, loops.
     Abstract. One of the problems that requires.  .  .  the basis of an
```

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File   8:Ei Compendex(R) 1970-2004/Jan W4
         (c) 2004 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2004/Jan
         (c) 2004 ProQuest Info&Learning
File 202:Info. Sci. & Tech. Abs. 1966-2004/Jan 20
         (c) 2004 EBSCO Publishing
File  65:Inside Conferences 1993-2004/Feb W1
         (c) 2004 BLDSC all rts. reserv.
File   2:INSPEC 1969-2004/Jan W4
         (c) 2004 Institution of Electrical Engineers
File  94:JICST-EPlus 1985-2004/Jan W4
         (c)2004 Japan Science and Tech Corp(JST)
File   6:NTIS 1964-2004/Feb W2
         (c) 2004 NTIS, Intl Cpyrght All Rights Res
File 144:Pascal 1973-2004/Jan W4
         (c) 2004 INIST/CNRS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W1
         (c) 2004 Inst for Sci Info
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Jan
         (c) 2004 The HW Wilson Co.
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
File 266:FEDRIP 2004/Dec
         Comp & dist by NTIS, Intl Copyright All Rights Res
File  95:TEME-Technology & Management 1989-2004/Jan W3
         (c) 2004 FIZ TECHNIK

Set     Items   Description
S1    6362775   EXPRESSION? ? OR FUNCTION? ? OR STRING? ? OR (SEQUENCE? ? -
               OR SERIES)(3N)(CHARACTER? ? OR LETTER? ? OR NUMBER? ? OR WORD?
                ? OR KEYWORD? ? OR TERM? ? OR TERMINOLOGY) OR PHRASE? ? OR S-
               ENTENCE? ? OR STATEMENT? ?
S2      34472   (REPLAC? OR SUBSTITUT? OR SWAP????)(5N)(S1 OR CHARACTER? ?
               OR VARIABLE? ? OR PARAMETER? ? OR OPERATOR? ? OR OPERAND? ? OR
                DELIMITER? ? OR SUBSTRING? ?)
S3     418263   (TRANSLAT? OR TRANSFORM? OR CONVERT? OR CONVERSION OR CHAN-
               G? OR REFORMAT? OR RE()FORMAT?)(5N)(S1 OR CHARACTER? ? OR VAR-
               IABLE? ? OR PARAMETER? ? OR OPERATOR? ? OR OPERAND? ? OR DELI-
               MITER? ? OR SUBSTRING? ?)
S4     809358   ITERAT? OR REITERAT? OR REPEAT?
S5     406404   (REDUC? OR SHRINK??? OR SHRUNK OR CONDENS? OR CONTRACT? OR
               COMPACT? OR COMPRESSED OR COMPRESSION OR MINIMIZ? OR MINIMIS?-
               )(10N)(S1 OR CHARACTER? ? OR VARIABLE? ? OR PARAMETER? ? OR O-
               PERATOR? ? OR OPERAND? ? OR DELIMITER? ? OR SUBSTRING? ?)
S6        1154   S1 AND S2:S3 AND S4 AND S5
S7         140   S1 AND S2 AND S4 AND S5
S8          66   S1(20N)S2(20N)S4(20N)S5
S9          39   RD (unique items)
S10         30   S9 NOT PY=2000:2004
S11        317   AU=(BERA, R? OR BERA R?)
S12          0   S6 AND S11
```

10/5/2 **(Item 2 from file: 8)**
DIALOG(R)File 8:Ei Compendex(R)

03903046 E.I. No: EIP94071347974
Title: Some nonlinear iterated function systems
Author: Frame, Michael; Angers, Maureen
Corporate Source: Union Coll, Schenectady, NY, USA
Source: Computers & Graphics (Pergamon) v 18 n 1 Jan-Feb 1994. p 119-125
Publication Year: 1994
CODEN: COGRD2 ISSN: 0097-8493
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9409W2
Abstract: We give examples of **Iterated Function** Systems where the usual affine **functions** are **replaced** by complex polynomials. Since these are not global **contractions** , some care must be exerted with the domain on which the **functions** are applied. On the other hand, the lack of unique inverse **functions** gives rise to multiple addresses for the same regions of the attractor, thus providing another degree of information available for determining other attributes - for example, colors or textures - of the image. Traversing a loop through parameter space reveals an 'explosion' of features and also what may be a curious cascade of self-intersections. (Author abstract) 4 Refs.
Descriptors: *Computer graphics; Iterative methods; Chaos theory; Polynomials; Inverse problems; Parameter estimation; Convergence of numerical methods; Image coding; Function evaluation; Set theory
Identifiers: Julia set; Nonlinear iterated function systems
Classification Codes:
723.5 (Computer Applications); 921.6 (Numerical Methods); 921.1 (Algebra); 723.2 (Data Processing); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory); 921.3 (Mathematical Transformations)
723 (Computer Software); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

10/5/4 **(Item 4 from file: 8)**
DIALOG(R)File 8:Ei Compendex(R)

03361922 E.I. Monthly No: EI9201006477
Title: Parallel architecture for high-speed data compression.
Author: Storer, James A.; Reif, John H.
Corporate Source: Brandeis Univ, Waltham, MA, USA
Source: Journal of Parallel and Distributed Computing v 13 n 2 Oct 1991 p 222-227
Publication Year: 1991
CODEN: JPDCER ISSN: 0743-7315
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)
Journal Announcement: 9201
Abstract: Data compression is becoming an essential component of highspeed data communications and storage. Lossless data compression is when the decompressed data must be identical to the original. Textual substitution methods are among the most powerful approaches to lossless data **compression** , where **repeated substrings** are **replaced** by pointers into a dynamically changing dictionary of **strings** . We present a massively parallel architecture for textual substitution that is based on a systolic pipe of 3839 identical processing elements that forms what is essentially an associative memory for **strings** that can 'learn' new **strings** on the basis of the text processed thus far. Key to the design of this architecture is the formulation of an inherently 'top-down' serial learning strategy as a 'bottom-up' parallel strategy. A custom VLSI chip for this architecture that operates at 320 million bits per second has been fabricated. (Author abstract) 10 Refs.
Descriptors: *INFORMATION THEORY--*Data Compression; INTEGRATED CIRCUITS, VLSI; COMPUTER ARCHITECTURE; COMPUTER SYSTEMS, DIGITAL--Parallel Processing

; DATA TRANSMISSION
Identifiers: PARALLEL ARCHITECTURE; HIGH-SPEED DATA COMPRESSION; CUSTOM VLSI CHIPS
Classification Codes:
716 (Radar, Radio & TV Electronic Equipment); 717 (Electro-Optical Communications); 718 (Telephone & Line Communications); 723 (Computer Software); 713 (Electronic Circuits); 722 (Computer Hardware)
71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING)

10/5/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

[illegible]126 E.I. Monthly No: EI8308062284 E.I. Yearly No: EI83022680
Title: **BYTE ORIENTED DATA COMPRESSION TECHNIQUES.**
Author: Harker, John
Corporate Source: Tandem Computers Inc, Software Education Design Support Group, Sunnyvale, Calif, USA
Source: Computer Design v 21 n 10 Oct 1982 p 95-96, 98, 100
Publication Year: 1982
CODEN: CMPDAM ISSN: 0010-4566
Language: ENGLISH
Journal Announcement: 8308
Abstract: Schemes based on run-length encoding are eliminating the wide open spaces in high volume data communication streams. The techniques rely on the general method of **replacing strings** of **repeated characters** with a 1- to 3-byte sequence indicating what, and how many, **characters** are **replaced** . This is commonly called run-length encoding because **compression** is accomplished by taking advantage of a run of identical information. A distinction is drawn between two **compression** techniques. The first uses predefined record control **characters** , and the second uses positionally defined control fields. 8 refs.
Descriptors: *DATA PROCESSING; DATA TRANSMISSION
Classification Codes:
723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment); 718 (Telephone & Line Communications)
72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS)

10/5/10 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

[illegible]53 ORDER NO: AADAA-I1360124
SSA-BASED REDUCTION OF OPERATOR STRENGTH
Author: VICK, CHRISTOPHER ALLEN
Degree: M.S.
Year: 1994
Corporate Source/Institution: RICE UNIVERSITY (0187)
Chair: KEITH D. COOPER
Source: VOLUME 33/04 of MASTERS ABSTRACTS.
PAGE 1272. 30 PAGES
Descriptors: COMPUTER SCIENCE
Descriptor Codes: 0984

Reduction of operator strength is a well-known code improvement technique. It seeks to improve compiler-generated code by replacing repeated multiplications with repeated additions. Opportunities often occur in array addressing **expressions** inside loops. Strength **reduction** is generally combined with linear **function** test **replacement** , an optimization which removes induction **variables** whose uses have been strength **reduced** away by rewriting loop exit tests. This can reduce both the number of instructions in loops which contain array references and their cost. Perhaps the best known technique for performing strength **reduction** and linear **function** test **replacement** is the eight step approach presented by Allen, Cocke, and Kennedy.

This work explores the potential benefits of using the Static Single

Assignment (SSA) form of the program as the intermediate representation for performing strength **reduction** and linear **function** test **replacement** . It follows the basic form of the Allen, Cocke, and Kennedy technique, but many of the individual steps will be modified to take advantage of the special attributes of the SSA form wherever it improves either the asymptotic complexity of the operation or the precision of the information generated. It is intended that this work would be integrated into an optimizer comprised of a full suite of optimizations using the SSA representation.

10/5/13 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6010822 INSPEC Abstract Number: B9810-6140-069, C9810-1260-063
Title: Some theory and practice of greedy off-line textual substitution
Author(s): Apostolico, A.; Lonardi, S.
Author Affiliation: Purdue Univ., West Lafayette, IN, USA
Conference Title: Proceedings DCC '98 Data Compression Conference (Cat. No.98TB100225) p.119-28
Editor(s): Storer, J.A.; Cohn, M.
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 1998 Country of Publication: USA xvi+589 pp.
ISBN: 0 8186 8406 2 Material Identity Number: XX98-00896
U.S. Copyright Clearance Center Code: 1068-0314/98/$10.00
Conference Title: Proceedings DCC '98 Data Compression Conference
Conference Sponsor: IEEE Comput. Soc. Tech. Commitee on Comput. Commun
Conference Date: 30 March-1 April 1998 Conference Location: Snowbird, UT, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P); Theoretical (T); Experimental (X)
Abstract: Greedy off-line textual substitution refers to the following steepest descent approach to **compression** or structural inference. Given a long text **string** x, a **substring** w is identified such that **replacing** all instances of w in x except one by a suitable pair of pointers yields the highest possible **contraction** of x; the process is then **repeated** on the **contracted** text **string** , until **substrings** capable of producing **contractions** can no longer be found. This paper examines the computational issues and performance resulting from implementations of this paradigm in preliminary applications and experiments. Apart from intrinsic interest, these methods may find use in the compression of massively disseminated data, and lend themselves to efficient parallel implementation, perhaps on dedicated architectures. (16 Refs)
Subfile: B C
Descriptors: data compression; encoding; parallel architectures; tree data structures; word processing
Identifiers: greedy off-line textual substitution; steepest descent approach; structural inference; compression; text string; substring; pointers; contracted text string; performance; computational issues; experiments; massively disseminated data compression; dedicated architectures; parallel implementation; encoding; suffix tree; data structures
Class Codes: B6140 (Signal processing and detection); B6120B (Codes); C1260 (Information theory); C6120 (File organisation)

10/5/16 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

04259460 INSPEC Abstract Number: C9211-4240P-059
Title: Massively parallel systolic algorithms for real-time dictionary-based text compression
Author(s): Storer, J.A.
Author Affiliation: Dept. of Comput. Sci., Brandeis Univ., Waltham, MA, USA

Book Title: Image and text compression p.159-78
Editor(s): Storer, J.A.
Publisher: Kluwer Academic Publishers, Dordrecht, Netherlands
Publication Date: 1992 Country of Publication: Netherlands viii+354 pp.
ISBN: 0 7923 9243 4
Language: English Document Type: Book Chapter (BC)
Treatment: Practical (P); Theoretical (T)
Abstract: Textual substitution is a powerful and practical method of lossless data **compression** , where **repeated substrings** are **replaced** by pointers into a dynamically changing dictionary of **strings** . They are often called dictionary methods or 'LZ' methods after the important work of Lempel and Ziv (1976). With many applications, high speed hardware that can perform compression or decompression in real time is essential. The author presents massively parallel approaches for real-time textual substitution. (23 Refs)
Subfile: C
Descriptors: data compression; parallel algorithms
Identifiers: real time text compression; textual substitution; massively parallel systolic algorithms; LZ methods; dictionary-based text compression ; lossless data compression; dictionary methods; high speed hardware; decompression
Class Codes: C4240P (Parallel programming and algorithm theory); C1260 (Information theory); C6130D (Document processing techniques)

10/5/17 **(Item 5 from file: 2)**
DIALOG(R)File 2:INSPEC

04186432 INSPEC Abstract Number: C9208-1290Z-007
Title: The application of the substitute objective function minimization for solving multistage separation problems
Author(s): Wasylkiewicz, S.
Author Affiliation: Inst. of Chem. Eng. & Heating Equipment, Tech. Univ., Wroclaw, Poland
Journal: Mathematical and Computer Modelling vol.16, no.5 p.13-26
Publication Date: May 1992 Country of Publication: UK
CODEN: MCMOEG ISSN: 0895-7177
U.S. Copyright Clearance Center Code: 0895-7177/92/$5.00+0.00
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: An algorithm is developed for steady-state simulation of stagewise counter-current separation processes. Model equations are decoupled by stages. **Iterative** variables are selected from state variables of one stage of a separation column. The convergence of the method is ensured by means of an optimization procedure in which the objective **function** derived from departures of calculated and assumed values of tear **variables** is minimized. Inequality constraints for all state **variables** are taken into account and introduced into the **minimization** routine by means of the **substitute** objective **function** . Finally the new sum-of-squares **functions** becomes unimodal in the whole range of tear variables. The method is illustrated by solving problems for the solvent extraction of metals. (46 Refs)
Subfile: C

File 347:JAPIO Oct 1976-2003/Oct(Updated 040202)
(c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200409
(c) 2004 Thomson Derwent

Set	Items	Description
S1	886352	EXPRESSION? ? OR FUNCTION? ? OR STRING? ? OR (SEQUENCE? ? OR SERIES)(3N)(CHARACTER? ? OR LETTER? ? OR NUMBER? ? OR WORD? ? OR KEYWORD? ? OR TERM? ? OR TERMINOLOGY) OR PHRASE? ? OR SENTENCE? ? OR STATEMENT
S2	8486	(REPLAC? OR SUBSTITUT? OR SWAP????)(5N)(S1 OR CHARACTER? ? OR VARIABLE? ? OR PARAMETER? ? OR OPERATOR? ? OR OPERAND? ? OR DELIMITER? ? OR SUBSTRING? ?)
S3	103776	(TRANSLAT? OR TRANSFORM? OR CONVERT? OR CONVERSION OR CHANG? OR REFORMAT? OR RE()FORMAT?)(5N)(S1 OR CHARACTER? ? OR VARIABLE? ? OR PARAMETER? ? OR OPERATOR? ? OR OPERAND? ? OR DELIMITER? ? OR SUBSTRING? ?)
S4	324158	ITERAT? OR REITERAT? OR REPEAT?
S5	86259	(REDUC? OR SHRINK??? OR SHRUNK OR CONDENS? OR CONTRACT? OR COMPACT? OR COMPRESSED OR COMPRESSION OR MINIMIZ? OR MINIMIS?)(10N)(S1 OR CHARACTER? ? OR VARIABLE? ? OR PARAMETER? ? OR OPERATOR? ? OR OPERAND? ? OR DELIMITER? ? OR SUBSTRING? ?)
S6	280	S2:S3 AND S4 AND S5
S7	112	S6 AND IC=G06F
S8	36	S2:S3(20N)S4(20N)S5 AND IC=G06F
S9	24	S2 AND S4 AND S5 AND IC=G06F
S10	14	S9 NOT S8
S11	62	S7 NOT (S8 OR S10)

8/5/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

05435467 **Image available**
INFORMATIQN PROCESSING DEVICE

PUB. NO.: 09-050267 [JP 9050267 A]
PUBLISHED: February 18, 1997 (19970218)
INVENTOR(s): ANDO HATSUO
TAKEBE YOSHIFUMI
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP (Japan)
HITACHI KEIYO ENG CO LTD [485526] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-204624 [JP 95204624]
FILED: August 10, 1995 (19950810)
INTL CLASS: [6] G09G-005/00; **G06F-003/147** ; **G06F-017/21** ; G09G-005/26
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 45.3 (INFORMATION PROCESSING -- Input Output Units); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JAPIO KEYWORD:R011 (LIQUID CRYSTALS)

ABSTRACT

PROBLEM TO BE SOLVED: To similarly display a sentence for personal computer by providing a specific font storage means and a means developing character fonts to a display memory.

SOLUTION: The bit map display of 480X320dots can be performed on a liquid crystal display device (LCD) 5, and a 16dot part is multiplied by 3/4. In a half-sized **character** , 8dots is **converted** into 6dots by **repeating** the **reduction** of 4dots to 3dots two times. Then, the first bit information of 16bits corresponding to 16dots are stored in the first bit of a reduced font as it is. Second and third bits are subjected to the OR processing of information and the result is stored in the second bit of the reduced font. Moreover, the information of a fourth bit is stored in the third bit of the reduced font as it is and these processings are performed up to a 16th bit. The information of 12dots are prepared by successively repeating this operation four times and then 12X16 dot fonts are prepared by performing preparation of information for respective vertical 16 lines.

8/5/6 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO

05237440 **Image available**
INPUT PROCESSOR FOR CHINESE

PUB. NO.: 08-292940 [JP 8292940 A]
PUBLISHED: November 05, 1996 (19961105)
INVENTOR(s): SHIGEMATSU HIROYUKI
APPLICANT(s): SHARP CORP [000504] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-095569 [JP 9595569]
FILED: April 20, 1995 (19950420)
INTL CLASS: [6] **G06F-017/21**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JAPIO KEYWORD:R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers); R139 (INFORMATION PROCESSING -- Word Processors)

ABSTRACT

PURPOSE: To **reduce** trouble in key operation by **repeating** a **character** code by **substituting** the **character** code at the position of a symbol code when the symbol code is inputted following the character code.
CONSTITUTION: A converting device 2 is provided so as to convert a key signal which is inputted from a character input device 1 into a

KANJI(Chinese character) code. In this case, KANJI of Chinese is inputted by one character or plural characters through pinyin input with alphabet keys and then when a conversion key is pressed after a symbol key is inputted, the symbol code of the symbol key is inputted to the converting device 2 right after respective character codes by character keys, so the converting device 2 substitutes the symbol code for the character code right before the inputted symbol code to generate respective character codes including the repetition of character codes. Namely, the character code which is inputted right before the symbol key is repeated and converted into a KANJI code by the input of the symbol key as single key operation

8/5/7 (Item 7 from file: 347)

05279851 **Image available**
FRACTAL CODING CIRCUIT

PUB. NO.: 08-235351 [JP 8235351 A]
PUBLISHED: September 13, 1996 (19960913)
INVENTOR(s): TAKATANI TOSHIHIKO
APPLICANT(s): KOKUSAI ELECTRIC CO LTD [000112] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-060056 [JP 9560056]
FILED: February 24, 1995 (19950224)
INTL CLASS: [6] G06T-003/00; **G06F-015/18** ; G10L-009/18
JAPIO CLASS: 45.9 (INFORMATION PROCESSING -- Other); 42.5 (ELECTRONICS -- Equipment); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JAPIO KEYWORD: R108 (INFORMATION PROCESSING -- Speech Recognition & Synthesis)

ABSTRACT

PURPOSE: To provide the fractal coding circuit which is provided with a chaos characteristic and is suitable to handle digital data and has the circuit constitution simplified in a neural network.

CONSTITUTION: This fractal coding circuit realizes the **iterative function** method using the affine **reduction transformation** by a cyclic circuit model of the neural network, and random numbers pi are calculated from an output (xk,yk) by a control part 13 of an operation processing part, and functions Wi corresponding to random numbers pi in the block size of picture element blocks are specified from the ROM table in a ROM 12 and are used to output (ei+1,pi+1) and (fi+1,pi+1) to the next circuit.

8/5/9 (Item 9 from file: 347)

03966972 **Image available**
CHARACTER DATA COMPRESSION SYSTEM

PUB. NO.: 04-332072 [JP 4332072 A]
PUBLISHED: November 19, 1992 (19921119)
INVENTOR(s): ONO SHOJI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-102324 [JP 91102324]
FILED: May 08, 1991 (19910508)
INTL CLASS: [5] **G06F-015/20** ; **G06F-005/00**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 1516, Vol. 17, No. 175, Pg. 122, April 05, 1993 (19930405)

ABSTRACT

PURPOSE: To enhance the data compression capacity by substituting a substitute character for a previously registered character string in data consisting of many kinds of characters.

CONSTITUTION: A character string repeatedly appearing in character data to be compressed is registered in a repeated character string registering part 1. An area recognizing means 2 divides the **character** data to be compressed into a character pattern recognizing area and a character data compressing area. The **compression** in the **character** pattern recognizing area is applied the intra-area operation of the character pattern recognizing area. Namely whether the character data are the registered repeated characters or not is checked, and when they are registered characters, they are substituted to a substitute **character** , or when they are not registered **characters** , they are **compressed** by a convensional **compression** method, and the pair of substitute **characters** and numbers thereof is outputted. The convensional **compression** method is applied to the **compression** of **characters** in the **character** data **compression** area and the pair of substituts **characters** and numbers thereof is outputted as a pair. Consequently, the **compression** rate of **character** data consisting of many **characters** can also be improved in addition to that of character data consisting of less characters.

8/5/10 (Item 10 from file: 347)

DIALOG(R)File 347:JAPIO

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03684314 **Image available**

DEVICE AND METHOD FOR COMPRESSING JAPANESE DATA

PUB. NO.: 04-049414 [JP 4049414 A]
PUBLISHED: February 18, 1992 (19920218)
INVENTOR(s): AOTANI YOSHIHISA
TAKAHASHI SHIN
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)
NEC MIYAGI LTD [488885] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-158714 [JP 90158714]
FILED: June 19, 1990 (19900619)
INTL CLASS: [5] **G06F-005/00 ; G06F-015/20**
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1361, Vol. 16, No. 231, Pg. 57, May 28, 1992 (19920528)

ABSTRACT

PURPOSE: To attain the data **compression** of **characters** consisting of two bytes by **converting** data formed by a conversion processing means forming a new data string into two characters and the number of times of **repeating** to compress the data when the newly formed data are the same as the preceding data.

CONSTITUTION: The Japanese data compressing device is constituted of a data array conversion part 2 and a data compressing part 3 and the conversion part 2 rearranges data 1 to be **compressed** which are an input data **string** . The compressing part 3 inuts the output of the conversion part 2 and sends compressed data 4. When data continuously inputted from the conversion part 2 are constituted of the same **characters** , the compressing part 3 **converts** the input data into the two characters and the number of times of **repeating** to compress the data. Thus, Japanese characters consisting of two bytes, i.e. the high-order bytes and the low-order byte of 'KANA' (Japanese cyllabary), 'KANJI' (Chinese **character**), etc., can be **compressed** .

8/5/12 (Item 12 from file: 347)

DIALOG(R)File 347:JAPIO

03214152 **Image available**
DUMP OUTPUT SYSTEM AT THE TIME OF DETECTING ABNORMALITY IN ELECTRONIC COMPUTER SYSTEM

PUB. NO.: 02-189652 [JP 2189652 A]
PUBLISHED: July 25, 1990 (19900725)
INVENTOR(s): YOSHIHARA SHINJI
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-010532 [JP 8910532]
FILED: January 18, 1989 (19890118)
INTL CLASS: [5] **G06F-011/34**
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 1117, Vol. 14, No. 474, Pg. 19, October 16, 1990 (19901016)

ABSTRACT

PURPOSE: To reduce a dumping variable by dumping out only the area of a subprogram generating abnormality based upon a subprogram area control table.

CONSTITUTION: A subprogram area acquiring means 3 acquires the start address SA and area size AS of a subprogram A7 from the entry of the subprogram area control table 5 which is found at an abnormality detecting address decision means 1. A value obtained by adding the area size AS to the start address SA is used as an end address EA, a specified area edition output means 4 starts dumping-out from the SA, **converts** a memory image into a **character string** and outputs the **converted** result to a dump file output device 90 and a dump list output device 91. An address DA for dumping-out is advanced in each address and the address advancement is **repeated** up to the end address EA. Thus, the dumping **variable** can be **reduced** .

8/5/13 **(Item 13 from file: 347)**
DIALOG(R)File 347:JAPIO
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03134167 **Image available**
INFORMATION PROCESSOR

PUB. NO.: 02-159667 [JP 2159667 A]
PUBLISHED: June 19, 1990 (19900619)
INVENTOR(s): FUSHIMOTO HIDEO
APPLICANT(s): CANON INC [000100] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-313814 [JP 88313814]
FILED: December 14, 1988 (19881214)
INTL CLASS: [5] **G06F-015/20** ; **G06F-015/02**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 29.4 (PRECISION INSTRUMENTS -- Business Machines); 30.2 (MISCELLANEOUS GOODS -- Sports & Recreation)
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers)
JOURNAL: Section: P, Section No. 1102, Vol. 14, No. 415, Pg. 61, September 07, 1990 (19900907)

ABSTRACT

PURPOSE: To know a name having the best evaluation by inputting **repeatedly** reading of a full name to be named by an **operator** , and to **reduce** the labor of the **operator** by **converting** to a **character** of KANJI (Chinese character) or a KANA (Japanese syllabary), and deriving correspondingly onomancy information from numerical information which can be taken by an arithmetic value of its number of strokes.

CONSTITUTION: Reading of a full name is inputted from an input means 100, and converted to a character of a KANJI or a KANA corresponding to reading.

The number of strokes outputted from a character converting means 200 for outputting its number of strokes together with the converted character is added, based on a prescribed arithmetic expression related to an arranged position of the character, and from a storage means 400 in which numerical information which can be taken by an arithmetic value of the number of strokes, and full name deciding information are stored correspondingly in advance, the full name deciding information corresponding to an arithmetic value of an arithmetic means 300 is read out, and outputted together with information of the converted character. In such a way, an operator can know KANJIs for constituting a full name and its full name deciding information by a simple operation of only inputting reading of the family name

8/5/14 **(Item 14 from file: 347)**
DIALOG(R)File 347:JAPIO

02018624 **Image available**
COMPRESSING SYSTEM FOR CHARACTER CODE DATA

PUB. NO.: 61-232724 [JP 61232724 A]
PUBLISHED: October 17, 1986 (19861017)
INVENTOR(s): HASEGAWA SANEO
HIBINO YOSHIHIRO
YANAGIDA TETSUMI
APPLICANT(s): NIPPON DENKI OFF SYST KK [000000] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 60-072729 [JP 8572729]
FILED: April 08, 1985 (19850408)
INTL CLASS: [4] H03M-007/30; **G06F-005/00**
JAPIO CLASS: 42.4 (ELECTRONICS -- Basic Circuits); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: E, Section No. 487, Vol. 11, No. 77, Pg. 119, March 07, 1987 (19870307)

ABSTRACT

PURPOSE: To convert the code data which are simple, highly speedy and have the word large in the data compressing effect by compressing and converting automatically the character code data to the code data of the word by the means to obtain the coincidence of the character column of the character code data and the code dictionary of the word.

CONSTITUTION: From character code data 14 coded by the fixed length code of two bytes, one character code is read and accumulated to a character code register 15. Next, a coincident circuit 16 reads the character code of a register 15, obtains the coincidence of the first character of a character code column 12 of a code dictionary memory 13 of the word, reads the next character code from the character code data 14 successively, and **repeats** to obtain the coincidence of the next character of the character code column 12 of the code dictionary of the word. A code 11 of the word coincident to the character code column is read to a code register 17, and outputted to a code data storing memory 18 of the word of the **converting** result. Thus, the **character** code data are **compressed** and **replaced** to the code data of the word, the data storing memory is saved, the data transmitting speed is improved and the data processing can be made efficient.

8/5/18 **(Item 4 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

014884422 **Image available**
WPI Acc No: 2002-705128/200276
Related WPI Acc No: 2001-390951
XRPX Acc No: N02-555768
Computer-based optimization method for routing system, involves creating current state by repeatedly substituting **new state** variables ,

satisfying additional constraints for state variables **excluded in** reduced **state**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: DUECK G; MAEHLER M; SCHNEIDER J; SCHRIMPF G; STAMM WILBRANDT H; STAMM-WILBRANDT H
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6418398	B1	20020709	US 99410450	A	19991001	200276	B
DE 19946607	C2	20021107	DE 1046607	A	19990929	200276	

Priority Applications (No Type Date): EP 98118593 A 19981001
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6418398	B1		36	G06F-015/00	
DE 19946607	C2			G05B-017/00	

Abstract (Basic): US 6418398 B1

NOVELTY - A current state chosen with state **variables** satisfying additional constraints, is **reduced** by excluding some state **variables** . The **reduced** state is extended by substituting the excluded state **variables** with **substitute** state **variables** , satisfying the same constraints to form a recreated state. The processes are **iterated** until an acceptable recreated state is obtained.

USE - Computer-based optimization method for transportation routing system, communication network, supply chain system in automobile industry, etc.

ADVANTAGE - As the ruin step excludes layer parts of current state, an improved state is independent from initialization state. Thus, efficiency is improved by avoiding the method becoming trapped in certain parts of state space. Processing speed is increased with shorter computing time states, as fewer state variables are required for recreation step.

DESCRIPTION OF DRAWING(S) - The figure shows a fundamental flow of optimization scheme.

pp; 36 DwgNo 2/17

Title Terms: COMPUTER; BASED; OPTIMUM; METHOD; ROUTE; SYSTEM; CURRENT; STATE; REPEAT; SUBSTITUTE; NEW; STATE; VARIABLE; SATISFY; ADD; CONSTRAIN; STATE; VARIABLE; EXCLUDE; REDUCE; STATE
Derwent Class: T01; W01
International Patent Class (Main): G05B-017/00; **G06F-015/00**
International Patent Class (Additional): **G06F-017/18** ; **G06F-017/50** ; **G06F-101/14**
File Segment: EPI

8/5/23 **(Item 9 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

013392483 **Image available**
WPI Acc No: 2000-564421/200052
XRPX Acc No: N00-416831
Data compression in personal computer, involves compressing data elements in database record based on comparison of data element group formed by grouping last two elements and rest of element pairs in buffer
Patent Assignee: TELCORDIA TECHNOLOGIES INC (TELC-N)
Inventor: BELCEA J M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6092070	A	20000718	US 92833974	A	19920211	200052	B
			US 94336720	A	19941109		
			US 96634084	A	19960418		

Priority Applications (No Type Date): US 92833974 A 19920211; US 94336720 A 19941109; US 96634084 A 19960418
Patent Details:

Patent No Kind Lan Pg   Main IPC   Filing Notes
US 6092070   A   12 G06F-017/30   Cont of application US 92833974
                                     Cont of application US 94336720

Abstract (Basic): US 6092070 A

NOVELTY - Last two elements in a buffer (20) are grouped and compared with rest of data element pairs in buffer. If match is found between the pairs, last element of grouped pair is removed and preceding element is replaced by an index indicating location of matching pair. If not matching, new data element is added from data records (10) to the buffer and whole process is repeated until all records are compressed.

USE - For compressing very large databases of personal computer and workstations in radio engineering applications to generate terrain profiles for signal level evaluations needed for radio transmitter and receiver placements.

ADVANTAGE - Database is compressed in such a way it enhances rapid data expansion and suitable to be used in work stations.

DESCRIPTION OF DRAWING(S) - The figure shows the **iterative changes** to an examples **expression** which is **compressed** .

Data record (10)

Buffer (20)

pp; 12 DwgNo 4/7

Title Terms: DATA; COMPRESS; PERSON; COMPUTER; COMPRESS; DATA; ELEMENT; DATABASE; RECORD; BASED; COMPARE; DATA; ELEMENT; GROUP; FORMING; GROUP; LAST; TWO; ELEMENT; REST; ELEMENT; PAIR; BUFFER

Derwent Class: T01; U21

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

8/5/24 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

011802735 **Image available**

WPI Acc No: 1998-219645/199820

XRPX Acc No: N98-173736

Method of learning to classify data into two classes separated by a surface - uses cost function that is sum of costs for all items in learning set and uses iterative convergence to derive final weights

Patent Assignee: CENT NAT RECH SCI (CNRS); COMMISSARIAT ENERGIE ATOMIQUE (COMS); CNRS CENT NAT RECH SCI (CNRS)

Inventor: GORDON M; GORDON M B

Number of Countries: 019 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2754080	A1	19980403	FR 9611939	A	19961001	199820	B
WO 9814892	A1	19980409	WO 97FR1713	A	19970929	199821	
EP 929867	A1	19990721	EP 97943020	A	19970929	199933	
			WO 97FR1713	A	19970929		
EP 929867	B1	20001206	EP 97943020	A	19970929	200064	
			WO 97FR1713	A	19970929		
DE 69703663	E	20010111	DE 603663	A	19970929	200110	
			EP 97943020	A	19970929		
			WO 97FR1713	A	19970929		
[illegible]	W	20010130	WO 97FR1713	A	19970929	200110	
			JP 98516278	A	19970929		
US 6219658	B1	20010417	WO 97FR1713	A	19970929	200123	
			US 99269204	A	19990331		

Priority Applications (No Type Date): FR 9611939 A 19961001

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2754080	A1		20	G06F-015/80	
WO 9814892	A1	F	21		

Designated States (National): JP US

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC

NL PT SE
EP 929867 A1 F G06F-015/80 Based on patent WO 9814892
Designated States (Regional): DE GB
EP 929867 B1 F G06F-015/80 Based on patent WO 9814892
Designated States (Regional): DE GB
DE 69703663 E G06F-015/80 Based on patent EP 929867
Based on patent WO 9814892
JP 2001501340 W 16 G06F-015/18 Based on patent WO 9814892
US 6219658 B1 G06N-003/02 Based on patent WO 9814892
Abstract (Basic): FR 2754080 A

The learning method defines a cost function and determines, as a function of a parameter that describes the separating surface, a stability value defined for each item of data in the learning data set. The cost function is the sum of all the costs determined for all the data in the learning set.

The weights, radius, parameters, rate of learning and rate of **change** of **parameters** are initialised. The cost **function** is **minimised** relative to the connection weights and the radii by successive **iteration** to obtain the final connection weights.

USE - USE - Neural net for shape recognition in medical diagnosis

ADVANTAGE - ADVANTAGE - Learning algorithm that converges optimally under all conditions.

Dwg.1/3

Title Terms: METHOD; LEARNING; CLASSIFY; DATA; TWO; CLASS; SEPARATE; SURFACE; COST; FUNCTION; SUM; COST; ITEM; LEARNING; SET; ITERATIVE; CONVERGE; DERIVATIVE; FINAL; WEIGHT
Index Terms/Additional Words: SHAPE; RECOGNITION; NEURAL; NETS; MEDICAL; DIAGNOSIS
Derwent Class: T01; T02
International Patent Class (Main): **G06F-015/18** ; **G06F-015/80** ; G06N-003/02
International Patent Class (Additional): **G06F-019/00**
File Segment: EPI

8/5/25 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011651057 **Image available**
WPI Acc No: 1998-067965/199807
XRPX Acc No: N98-053773

Document processing apparatus having encryption and decoding functions operable from keyboard - has decoder which deciphers character that is modified into another character based on predetermined algorithm

Patent Assignee: BROTHER KOGYO KK (BRER)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 9305587	A	19971128	JP 96148616	A	19960520	199807	B

Priority Applications (No Type Date): JP 96148616 A 19960520
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9305587	A		24	G06F-017/21	

Abstract (Basic): JP 9305587 A

The apparatus includes a decision unit which judges whether a character which is input using a keyboard (3), belongs to any of a predetermined groups.

When the input character belongs to a particular group, a modification unit alters the input character into another character based on a predetermined algorithm. A decoder deciphers the modified character.

ADVANTAGE - Enables encipherment of character based on algorithm corresponding to group where character belongs. Enables automatic judgement of group of **character** . Eliminates need for **conversion** table thereby **reducing** memory capacity. Enables **repeated** conversion

operation. Maintains confidentiality of data since **character** are enciphered. Increases data **conversion** reliability.

Dwg.2/19

Title Terms: DOCUMENT; PROCESS; APPARATUS; ENCRYPTION; DECODE; FUNCTION; OPERATE; KEYBOARD; DECODE; DECIPHER; CHARACTER; MODIFIED; CHARACTER; BASED; PREDETERMINED; ALGORITHM

Derwent Class: P75; T01; T04

International Patent Class (Main): **G06F-017/21**

International Patent Class (Additional): B41J-003/36; B41J-005/30; **G06F-003/12**

File Segment: EPI; EngPI

8/5/26 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010919976 **Image available**

WPI Acc No: 1996-416927/199642

XRPX Acc No: N96-351213

Technical-term converter for document production system - has conversion candidate output unit which outputs as conversion candidate each technical term contained in group of read technical terms as opposed to input word

Patent Assignee: DAINIPPON PRINTING CO LTD (NIPQ)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8202710	A	19960809	JP 9529987	A	19950126	199642	B

Priority Applications (No Type Date): JP 9529987 A 19950126

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8202710	A		7	G06F-017/22	

Abstract (Basic): JP 8202710 A

The converter has an input unit (11) which inputs a character string obtd. by reading a word or a sentence. A document production system using a computer performs type-of-letters transformation according to necessity, and produces a document.

A dictionary (30) stores a technical term. A group reader (13) reads a group of technical terms related to the input word based on a predetermined rule from the dictionary. A conversion candidate output unit (14) outputs as conversion candidate each technical term contained in the group of the read technical terms as opposed to the input word.

ADVANTAGE - Eliminates **repeated** conversion operation or specifying length of **converted character string** . **Reduces** input time of technical term. Improves document production efficiency. Inputs Japanese word or other languages need to be written together, without changing input mode in case notation of other languages, e.g. English, is needed. Reduces time that takes technical term to be written together with English word.

Dwg.1/5

Title Terms: TECHNICAL; TERM; CONVERTER; DOCUMENT; PRODUCE; SYSTEM; CONVERT ; CANDIDATE; OUTPUT; UNIT; OUTPUT; CONVERT; CANDIDATE; TECHNICAL; TERM; CONTAIN; GROUP; READ; TECHNICAL; TERM; OPPOSED; INPUT; WORD

Derwent Class: T01

International Patent Class (Main): **G06F-017/22**

File Segment: EPI

8/5/32 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008712030

WPI Acc No: 1991-216049/199130

XRPX Acc No: N91-164811

Storing sequence of characters in data processing system memory - achieving max. data compression without data loss by substituting unused characters for repeated characters string etc.

Patent Assignee: STANDARD ELEKTRIK LORENZ AG (INTT)
Inventor: CHEUNG R L M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4000615	A	19910718	DE 4000615	A	19900111	199130	B

Priority Applications (No Type Date): DE 4000615 A 19900111

Abstract (Basic): DE 4000615 A

A method of storing sequences of characters which are elements of a defined character set involves steps for compressing the data. These steps identify unused characters. Repeated characters and character patterns, multiple strings and savings accruing from substituting unused characters for **repeated** ones.

Unused **characters** are **substituted** for **repeated characters**, **repeated** patterns and multiple **strings** according to the optimal saving strategy. The **compressed sequence** of **characters** is then stored.

USE - Storing character sequences in memory of data processing system. (4pp Dwg.No.0/0

Derwent Terms: STORAGE; SEQUENCE; CHARACTER; DATA; PROCESS; SYSTEM; MEMORY; ACHIEVE; MAXIMUM; DATA; COMPRESS; DATA; LOSS; SUBSTITUTE; CHARACTER; REPEAT; CHARACTER; STRING
Derwent Class: T01; U21
International Patent Class (Additional): **G06F-003/02** ; **G06F-015/74** ; H03M-007/46
File Segment: EPI

8/5/34 (Item 20 from file: 350)

008246645 **Image available**
WPI Acc No: 1990-133646/199018
XRPX Acc No: N90-103608

Machine translation of documents in different languages - having ability to retain and search previous translations in order to utilise previous translations of similar sentences

Patent Assignee: TOSHIBA KK (TOKE)
Inventor: AMANO S; HASEBE K; ITO E; TAKEDA K
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 366142	A	19900502	EP 89119998	A	19891027	199018	B
US 5140522	A	19920818	US 89427349	A	19891027	199236	
EP 366142	A3	19920902	EP 89119998	A	19891027	199338	
EP 366142	B1	19970806	EP 89119998	A	19891027	199736	
DE 68928231	E	19970911	DE 628231	A	19891027	199742	
			EP 89119998	A	19891027		

Priority Applications (No Type Date): JP 8959710 A 19890314; JP 88270739 A 19881028; JP 8960044 A 19890313
Cited Patents: NoSR.Pub; 5.Jnl.Ref
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 366142	A				
	Designated States (Regional): DE FR GB				
US 5140522	A		29	G06F-015/38	
EP 366142	B1	E	34	G06F-017/28	
	Designated States (Regional): DE FR GB				
DE 68928231	E			G06F-017/28	Based on patent EP 366142

Abstract (Basic): EP 366142 A

The translation appts. has an input unit (1) such as a keyboard, a display (2) to show both original and translated data side by side, a storage unit (4) for the documents and a translation system (3) to translate from one language to another. The storage unit retains a sentence by sentence relationship between the original and translated documents.

The translation controller (5) provides automatic translation and an ability for the operator to alter the translation. Additionally the translation controller compares every sentence in the current document with similar sentences in previous documents and displays previous translations for selection as the currently relevant translation. The operator then chooses either a previous translation or alters the translation as required.

USE/ADVANTAGE - **Reduces** effort required in performing **translations** of **repeated sentences** . (31pp Dwg.No.1/14)

Title Terms: MACHINE; TRANSLATION; DOCUMENT; LANGUAGE; ABILITY; RETAIN; SEARCH; TRANSLATION; ORDER; UTILISE; TRANSLATION; SIMILAR; SENTENCE
Derwent Class: T01
International Patent Class (Main): **G06F-015/38 ; G06F-017/28**
File Segment: EPI

8/5/36 **(Item 22 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

003118257
WPI Acc No: 1981-M8308D/198150
Mixed numbers binary into decimal code converter - uses second memory coupled to data line reducing operand length with remainders processed separately
Patent Assignee: ROZOV V N (ROZO-I)
Inventor: ROZOV V N
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 809149	B	19810305				198150 B

Priority Applications (No Type Date): SU 2606497 A 19780418
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 809149	B		3		

Abstract (Basic): SU 809149 B

Mixed numbers binary into binary-decimal code converter uses second memory to reduce the operand length. The full part of the binary number is applied to the shifter (6) and the fractions to the memory (7). The controls (1) pass the full part to the adder/subtractor without the shift. The remainder is transferred through the equivalence switch (3) to the memory (4) storing the binary equivalence of the decimal numbers.

The conversion is attained by dividing the stored numbers without the remainder. Partial remainders for each tetrade division are taken into account during the next lower tetrade forming cycle. The reminder is transferred by the equivalence switch (3) to the memory **repeating** the cycle. The **reduction** of **operand** length **reduces conversion** errors. Bul.8/28.2.81 (3pp Dwg.No.1)

Title Terms: MIX; NUMBER; BINARY; DECIMAL; CODE; CONVERTER; SECOND; MEMORY; COUPLE; DATA; LINE; REDUCE; OPERAND; LENGTH; REMAINING; PROCESS; SEPARATE
Derwent Class: T01
International Patent Class (Additional): **G06F-005/02**
File Segment: EPI

10/5/9 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008812866 **Image available**
WPI Acc No: 1991-316879/199143
Related WPI Acc No: 1991-109552; 1992-242093; 1992-323499; 1994-050252; 1995-185290; 1995-382551; 1996-200440
XRPX Acc No: N91-242720
Input data character stream conversion method for communication system - using history array to convert input data stream into variable **length encoded data in data** compression **system**
Patent Assignee: STAC INC (STAC-N)
Inventor: GEORGE G A; WHITING D L; IVEY G E
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5016009	A	19910514	US 89297152	A	19890113	199143	B
JP 2000201081	A	20000718	JP 94159042	A	19900112	200040	
			JP 99363526	A	19900112		
JP 3238143	B2	20011210	JP 94159042	A	19900112	200203	
			JP 99363526	A	19900112		

Priority Applications (No Type Date): US 89297152 A 19890113; US 89418034 A 19891006
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000201081	A		31	H03M-007/40	Div ex application JP 94159042
JP 3238143	B2		41	H03M-007/40	Div ex application JP 94159042 Previous Publ. patent JP 2000201081

Abstract (Basic): US 5016009 A
The data compression method uses a history array which has several entries and each entry of the history array is for storing a portion of the input data stream. A search is formed in a history array for the longest string which matches the input data string. If the matching data string is found within the history buffer, the longest matching data string is found by appending to the encoded data stream a tag indicating the longest matching data **string** was found and a **string substitution** code.
If the matching data string is not found within the history array the next step includes encoding the first character of the input data string by appending to the encoded data stream a raw data tag indicating that no matching data string was found and the first character of the input data string. (24pp Dwg.No.7/7
Title Terms: INPUT; DATA; CHARACTER; STREAM; CONVERT; METHOD; COMMUNICATE; SYSTEM; HISTORY; ARRAY; CONVERT; INPUT; DATA; STREAM; VARIABLE; LENGTH; ENCODE; DATA; DATA; COMPRESS; SYSTEM
Derwent Class: U21
International Patent Class (Main): H03M-007/40
International Patent Class (Additional): **G06F-005/00** ; H04L-025/49
File Segment: EPI

10/5/12 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007551219 **Image available**
WPI Acc No: 1988-185151/198827
XRPX Acc No: N88-141431
Square root of number determining device - has cells each performing interaction of algorithm in which number is compared, two bits at a time, starting from most significant bit
Patent Assignee: PLESSEY CO PLC (PLES)
Inventor: CONSIDINE V; HOLLAND P G
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2199430	A	19880706	GB 8625418	A	19861023	198827	B
GB 2199430	B	19910116				199103	

Priority Applications (No Type Date): GB 8625418 A 19861023
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2199430	A		13		

Abstract (Basic): GB 2199430 A

An **iterative** algorithm is implemented for determining the square root of a binary number. The device comprises a number of similar cells (10) each performing an **iteration** of the algorithm in which the number is compared, two additional bits at a time, starting from the most significant bit (MSB). The function 2R+1 of an initially zero, progressively increasing estimate R of the square root is used and, if greater than the function, a one is added (at 32,20a) to the estimate of the square root and the compared bits of the number are **reduced** (at 26,30) by the **function** .

Registers may be included between each adjacent pair of cells for temporarily storing the numbers appearing on two paths. A multiplexer controlled by a sign bit effects substitution of a new estimate with an inverter adding one to the least significant bit.

ADVANTAGE - Device has regular construction so is suitable for fabrication in integrated circuit technology.

2/2

Title Terms: SQUARE; ROOT; NUMBER; DETERMINE; DEVICE; CELL; PERFORMANCE; INTERACT; ALGORITHM; NUMBER; COMPARE; TWO; BIT; TIME; START; SIGNIFICANT; BIT
Derwent Class: T01
International Patent Class (Additional): **G06F-007/55**
File Segment: EPI

10/5/14 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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001740730
WPI Acc No: 1977-H7229Y/197737
Simulation of complex sequences of multistage separators - programs computer to solve operational equations of tower by reducing variable **and uses Newton** iterative **method**
Patent Assignee: MOBIL OIL CORP (MOBI)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4047004	A	19770906				197737	B

Priority Applications (No Type Date): US 76689262 A 19760524; US 66562808 A 19660705; US 7092534 A 19701124; US 71179984 A 19710913

Abstract (Basic): US 4047004 A

A computer is programmed to solve the applicable equations in which the two principal variables, flow ratio and temperature have been **replaced** by a single principal **variable** S. S is the product of the flow ratio times the equilibrium constant of a base component at each particular stage temperature.

For many multi-component mixtures, e.g. common hydrocarbons, the relative volatilities of the individual components are insensitive to change in temperature. By reducing the dimensions of the problem, a reduction in computer time is achieved by a successive **iterative** solution of the equations to achieve close simulation of selected operations of the tower.

The **iterative** procedure is the classical Newton method in which convergence is achieved through the use of the rate of change (i.e. partial derivatives) of appropriate mathematical expressions w.r.t. chosen independent variables.

Title Terms: SIMULATE; COMPLEX; SEQUENCE; MULTI; STAGE; SEPARATE; PROGRAM; COMPUTER; SOLVING; OPERATE; EQUATE; TOWER; REDUCE; VARIABLE; NEWTON; **ITERATIVE** ; METHOD
Derwent Class: T01; T06
International Patent Class (Additional): G05B-017/00; **G06F-015/20**
File Segment: EPI

11/5/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO

05391767 **Image available**
CHARACTER DATA **CONVERTER**

PUB. NO.: 09-006567 [JP 9006567 A]
PUBLISHED: January 10, 1997 (19970110)
INVENTOR(s): TSUTSUMI MASAKI
SHINTO YUKIHIRO
APPLICANT(s): CASIO COMPUT CO LTD [350750] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-181098 [JP 95181098]
FILED: June 23, 1995 (19950623)
INTL CLASS: [6] **G06F-003/12** ; B41J-002/485; **G06F-017/21**
JAPIO CLASS: 45.3 (INFORMATION PROCESSING -- Input Output Units); 29.4 (PRECISION INSTRUMENTS -- Business Machines); 45.4 (INFORMATION PROCESSING -- Computer Applications)

ABSTRACT

PURPOSE: To provide a **character** data **converter** shortening printing processing time by **reducing** the **sequence** quantity when the **character** data of a **sentence** , etc., is printed in the printer connected with a computer system, etc.

CONSTITUTION: After **character** data **conversion** part 5 executes a data **conversion** processing and stores a **series** of **character** data groups which are received by a data reception part 3 in a character memory 4, the part 5 designates each stored character data and stores the designated character data in a character buffer 5b. A series of processings in which the character pitch of the designated character is calculated, the pitch is stored in a character pitch memory 5a, plural of character data to which the calculated character pitch approximates are defined as character string groups and the groups are set with the starting coordinates in a character string group table 6 are **repeatedly** executed.

11/5/10 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO

04191743 **Image available**
CODE CONVERSION METHOD

PUB. NO.: 05-183443 [JP 5183443 A]
PUBLISHED: July 23, 1993 (19930723)
INVENTOR(s): TSUCHIDA JUN
TAIRA HIDEKI
APPLICANT(s): PFU LTD [366680] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-346159 [JP 91346159]
FILED: December 27, 1991 (19911227)
INTL CLASS: [5] H03M-007/40; **G06F-015/66** ; **G06F-015/66** ; H04N-001/411; H04N-001/419
JAPIO CLASS: 42.4 (ELECTRONICS -- Basic Circuits); 44.7 (COMMUNICATION -- Facsimile); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: E, Section No. 1455, Vol. 17, No. 599, Pg. 165, November 02, 1993 (19931102)

ABSTRACT

PURPOSE: To **reduce** the size of a lookup table(LT) by **converting** a **string** of a high-order bit of an input code into a more dense identification code **string** in a 1st lookup table for space **compression** , combining the identification code and a low-order bit of the input code in a 2nd LT to encode the combined code.

CONSTITUTION: A Huffman code string whose maximum code length is 16 bits is divided into m-bit and (160m) bits to generate a 1st LT3 and a 2nd LT4 when an identification code has 8 bits. In this case, a 1st Huffman code and a Huffman code length (size) are loaded by setting an ID set at first to be [illegible] the size is m-bit or over, n=0 is set and when the size is less [illegible] m-bit, n=12-(size) is set. Then the value (n) is used to write the ID [illegible] (sup n) times to consecutive 2(sup n) addresses in the memory. The [illegible] code and its size are loaded, and when the size is 0, the [illegible] is terminated and when the size is other than 0 and the high-order m-bit of the Huffman code are already set, the relation of ID=ID+1 is set, and the succeeding Huffman code and size are loaded and the similar processing is **repeated** .

11/5/11 (Item 11 from file: 347)
DIALOG(R)File 347:JAPIO

04151872 **Image available**
COMBINATION OPTIMIZING METHOD

PUB. NO.: 05-143572 [JP 5143572 A]
PUBLISHED: June 11, 1993 (19930611)
INVENTOR(s): YUGAMI NOBUHIRO
HARA HIROTAKA
OISHI KAZUHIRO
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-308111 [JP 91308111]
FILED: November 25, 1991 (19911125)
INTL CLASS: [5] **G06F-015/20**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1619, Vol. 17, No. 532, Pg. 45, September 24, 1993 (19930924)

ABSTRACT

PURPOSE: To perform efficient search by permitting transition into a state where restriction is not satisfied for minimizing probability for getting to a local optimum solution utilizing the down hill method, performing the seach based on an evaluation value added with the approximate **changing** amount .delta. of a **variable** of state as well as the approximate distance R of the **variable** of state for **minimizing** the probability for getting to the local optimum solution, and avoiding the search of an unnecessary area.

CONSTITUTION: Based on a given question, object function and restriction, as to a state of which a state evaluation part 5 is notified by a state generation part 4, the evaluation values concerning a case where the restriction is satisfied and the case where the restriction is not satisfied are obtained based on the object function, the state generation part 4 stores the state when the evaluation value of the state is optimum than the state stored in a state storage part 8 and then changes the state, or the state generation part 5 just changes the state when the evaluation value of the state is not optimum than the state stored in the state storage part 8. These procesures are **repeated** .

11/5/16 (Item 16 from file: 347)
DIALOG(R)File 347:JAPIO

[illegible]0658
CHARACTER PATTERN **CONVERSION** PROCESSOR

PUB. NO.: 01-178458 [JP 1178458 A]
PUBLISHED: July 14, 1989 (19890714)
INVENTOR(s): HONDA MASAHITO
APPLICANT(s): BROTHER IND LTD [000526] (A Japanese Company or Corporation),

JP (Japan)
APPL. NO.: 63-002940 [JP 882940]
FILED: January 08, 1988 (19880108)
INTL CLASS: [4] B41J-003/12; **G06F-003/12** ; G06K-015/10; G09G-001/00
JAPIO CLASS: 29.4 (PRECISION INSTRUMENTS -- Business Machines); 44.9 (COMMUNICATION -- Other); 45.3 (INFORMATION PROCESSING -- Input Output Units)
JAPIO KEYWORD: R106 (INFORMATION PROCESSING -- Kanji Information Processing); R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers)
JOURNAL: Section: M, Section No. 880, Vol. 13, No. 458, Pg. 108, October 17, 1989 (19891017)

ABSTRACT

PURPOSE: To expand or **contract** an original **character** pattern in a well-balanced manner, by sequentially **repeating** operations of selecting rows and columns to be inserted or deleted preferentially from rows and columns having dots in few numbers and of weighting the number of dots of rows and columns being adjacent to rows and columns having dots in minimum numbers, so as to determine the rows and columns to be inserted or deleted.

CONSTITUTION: In a character generator 3, dot pattern data of an original character pattern are stored corresponding to code data. In ROM 4, a control program for a pattern conversion processing control for **conversion** into a **character** pattern of different sizes is stored, while a dot data memory storing the number of dots of each row and column in correspondence to a row number and a column number and a memory storing the results of computation by CPU 2 are provided in RAM 5. Row and columns having dots in fewer numbers are selected preferentially and sequentially and inserted or deleted, while 1 is added to the number of dots of the row and column adjacent to the selected row and column for weighting. These operations are **repeated** by necessary numbers and thereby rows and columns to be inserted or deleted are determined. Accordingly, expansion or **contraction** to a well-balanced **character** pattern can be implemented.

11/5/36 (Item 9 from file: 350)

013084179 **Image available**
WPI Acc No: 2000-256051/200022
Related WPI Acc No: 2001-615574
XRPX Acc No: N00-190380

Financial transaction processing system for card activated terminal devices, transforms incoming and outgoing messages according to message identifier value and field position data

Patent Assignee: DIEBOLD INC (DIEB-N)
Inventor: GILL R B; SINGER I; ST GEORGE P; SYMONDS R D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6039245	A	20000321	US 9619544	A	19960610	200022 B
			US 9621871	A	19960717	
			US 9625266	A	19960917	
			US 97813510	A	19970307	

Priority Applications (No Type Date): US 97813510 A 19970307; US 9619544 P 19960610; US 9621871 P 19960717; US 9625266 P 19960917
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6039245	A		54	G06F-017/60	Provisional application US 9619544
					Provisional application US 9621871
					Provisional application US 9625266

Abstract (Basic): US 6039245 A

NOVELTY - A computer transforms an incoming message from one of several message sending external devices from external format to an

internal message format. Similarly, outgoing message to one of several message receiving external devices is transformed from internal message format to external format. Messages are transformed according to message identifier value and field position data associated with each message.

DETAILED DESCRIPTION - Each external device is operated in connection with the computer to send or receive at least one message comprising of fields. A database which is operated in connection with the computer includes data representative of each of several external devices and an associated external format used to send or to receive messages from each external device. The transaction processing system also comprises information concerning transformation of messages between at least one internal message format and several external message formats. The information includes a message identifier value, message type, message format and message field positions associated with message identifier value. The computer includes message gateway router (MGR) (24,25) **functions** that are operated to selectively **convert** messages between several external formats and single internal format. An INDEPENDENT CLAIM is also included for financial transaction processing method.

USE - For credit card, debit card, cash card activated terminal devices such as automated teller machine (ATM), point-of-sale (POS) terminals.

ADVANTAGE - The transaction processing system operates using uniform systematic processes for handling incoming and outgoing messages. This enables **repeated** reuse of the stored system information for converting between message formats and for carrying out transaction processing. The amount of effort required to add features and **functions** to the system is **reduced** . The need for extensive custom developments is minimized.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic view of the network topography of financial transaction processing system.

Transaction processing system (10)

MGR (24,25)

pp; 54 DwgNo 1/30

Title Terms: FINANCIAL; TRANSACTION; PROCESS; SYSTEM; CARD; ACTIVATE; TERMINAL; DEVICE; TRANSFORM; INCOMING; OUTGOING; MESSAGE; ACCORD; MESSAGE ; IDENTIFY; VALUE; FIELD; POSITION; DATA

Derwent Class: T01; T05

International Patent Class (Main): **G06F-017/60**

File Segment: EPI

11/5/42 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

011992106

WPI Acc No: 1998-409016/199835

XRAM Acc No: C98-123660

XRPX Acc No: N98-319276

System for determining ratio of use of scrap - has computer to perform calculations repeatedly , **whilst successively** changing **a** variable **pertaining to blending ratio**

Patent Assignee: TOPY KOGYO KK (TOPY-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 10168510	A	19980623	JP 96342388	A	19961209	199835	B

Priority Applications (No Type Date): JP 96342388 A 19961209

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10168510	A		5	C21C-005/56	

Abstract (Basic): JP 10168510 A

The calculation is performed in a computer so many times, while successively **changing** a **variable** under a condition that a blending

ratio of steel and scrap is the variable, and the purchase price and the working value are the constant, to determine the **variable** which can **minimise** the operation cost for the manufacturing of steel, under a specific conditions.

ADVANTAGE - The cost can be dynamically minimised.

Dwg.0/2

Title Terms: SYSTEM; DETERMINE; RATIO; SCRAP; COMPUTER; PERFORMANCE; CALCULATE; **REPEAT** ; SUCCESSION; CHANGE; VARIABLE; PERTAIN; BLEND; RATIO

Derwent Class: M24; T01

International Patent Class (Main): C21C-005/56

International Patent Class (Additional): **G06F-017/16** ; **G06F-017/60**

File Segment: CPI; EPI

11/5/50 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX

010280328 **Image available**

WPI Acc No: 1995-181586/199524

Related WPI Acc No: 1993-127891; 1993-352863; 1993-352864; 1995-035900; 1995-193776; 1995-214975; 1995-268984; 1995-275159; 1995-320216; 1995-361152; 1996-002535; 1996-019229; 1996-077217; 1996-083327; 1996-097357; 1996-160001; 1998-347931

XRPX Acc No: N95-142515

Control appts. for presentation apparatus, esp. clear-text office printer - compresses and encodes text in binary format, and converts number which cannot be compression coded into standard binary number

Patent Assignee: RICOH KK (RICO); RICOH CORP (RICO)

Inventor: MOTOYAMA T

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 6266533	A	19940922	JP 93301606	A	19931201	199524	B
US 5548687	A	19960820	US 92876251	A	19920430	199639	
			US 92876601	A	19920430		
			US 92931808	A	19920811		
			US 92986790	A	19921208		

Priority Applications (No Type Date): US 92986790 A 19921208; US 92876251 A 19920430; US 92876601 A 19920430; US 92931808 A 19920811

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6266533	A		24	G06F-005/00	
US 5548687	A		24	H03M-007/00	CIP of application US 92876251
					CIP of application US 92876601
					CIP of application US 92931808
					CIP of patent US 5319748
					CIP of patent US 5325484
					CIP of patent US 5416896

Abstract (Basic): JP 6266533 A

The appts. compresses a number representing text and encodes it in binary. If it cannot be compressed and encoded using a first method, it is **converted** into another standard binary **expression** . If the number to be **compressed** and converted is an integer, it is set as N when r is equal to zero. N is a two-byte binary number of single precision, r is a one-byte binary number of single precision.

If the number includes a decimal point, it is doubled. It is then ascertained whether the number is an integer or not. If the number is not an integer, it is **repeatedly** doubled until it becomes an integer or N or until r is out of a specific range.

USE - For reducing storage space in clear text SPDL file, also for reducing transfer time and printing process time for office printer or remote facsimile printer.

Dwg.12/12

Title Terms: CONTROL; APPARATUS; PRESENT; APPARATUS; CLEAR; TEXT; OFFICE; PRINT; COMPRESS; ENCODE; TEXT; BINARY; FORMAT; CONVERT; NUMBER; COMPRESS; CODE; STANDARD; BINARY; NUMBER

Derwent Class: P75; T01; T04; U21; W02
International Patent Class (Main): **G06F-005/00** ; H03M-007/00
International Patent Class (Additional): B41J-005/30; H03M-007/04
File Segment: EPI; EngPI

11/5/55 (Item 28 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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[illegible]9105 **Image available**
[illegible] No: 1991-283122/199139
[illegible] No: N91-216533
Compression **and expansion of** character **dot patterns - adding additional dots to** character **to allow** change **detection** compression **and subsequently removing expansion**
Patent Assignee: OKI ELECTRIC IND CO LTD (OKID)
Inventor: ITO T
Number of Countries: 005 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 448102	A	19910925	EP 91104443	A	19910321	199139	B
JP 3272874	A	19911204	JP 9072146	A	19900323	199204	
US 5207517	A	19930504	US 91674511	A	19910322	199319	
EP 448102	B1	19960110	EP 91104443	A	19910321	199607	
DE 69116190	E	19960222	DE 616190	A	19910321	199613	
			EP 91104443	A	19910321		

Priority Applications (No Type Date): JP 9072146 A 19900323
Cited Patents: DE 3505314; DE 3716752; EP 142098; EP 298446; EP 82297; GB 2164772; US 4741635; WO 9003272
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 448102	A				
Designated States (Regional): DE FR GB					
US 5207517	A		16	B41J-002/485	
EP 448102	B1	E	18	G06K-015/10	
Designated States (Regional): DE FR GB					
DE 69116190	E			G06K-015/10	Based on patent EP 448102

Abstract (Basic): EP 448102 A

In a dot matrix printer the characters are defined in memory as dot patterns with no two dots being consecutive in the main scanning direction. To allow the image to be compressed, additional dots (102,104) are inserted in the image in the main scanning direction.

The dotw pattern is then compressed based on columns (2 to 17) and associated information (C1) which indicates repetition. These compressed images are stored in memory and subsequently recalled and expanded prior to use. Once expanded the redundant dots are removed to give the original image.

ADVANTAGE - Allows significant **reduction** in **character** memory storage. (20pp Dwg.No.1a/7)

Title Terms: COMPRESS; EXPAND; CHARACTER; DOT; PATTERN; ADD; ADD; DOT; CHARACTER; ALLOW; CHANGE; DETECT; COMPRESS; SUBSEQUENT; REMOVE; EXPAND
Derwent Class: P75; T04; U21
International Patent Class (Main): B41J-002/485; G06K-015/10
International Patent Class (Additional): B41J-002/22; **G06F-003/12** ; H04N-001/40
File Segment: EPI; EngPI

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DIALOG(R)File 350:Derwent WPIX

Accession No.: 1988-058111/198809
Patent Family No: N88-044157

Optimising appts. for system operational state - adjusts values of system operating parameters within given set of constraints to minimise set of given operational criterion values

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Number of Countries: 008 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 257934	A	19880302	EP 87307190	A	19870814	198809	B
US 4894773	A	19900116	US 86899109	A	19860822	199010	
CA 1275738	C	19901030				199049	

Priority Applications (No Type Date): US 86899109 A 19860822
Cited Patents: 3.Jnl.Ref; A3...8941; No-SR.Pub; US 4208712; WO 8300069
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 257934	A	E	26		
Designated States (Regional): BE DE FR GB NL SE					
US 4894773	A		21		

Abstract (Basic): EP 257934 A

Sensors develop signal representations of the parameter values and a processor portion responsive to the representations, the constraints and the criterion, produces a canonical form signal representation of the system state. The summarising is effected by minimising (C power T)(X) subject to (A)(X)= 0, (e power TT)(X)= n, X is not less than 0, and Ae = 0. where x is a vector related to the parameters, c is a vector related to the criterion values, n is the no. of parameters, A is an m by n matrix of coeffts. related to the constraints, and e is a vector of all 1's.

The c signal representation forms a multidimensional space with the parameters being variables, he matrix defines a polytope in the space, and the c vector specifies a direction in the space. A second processor portion projects the parameters, the matrix and the c vector into a transformer space and develops a matrix Q. A third processor portion computes a power series **function** in the **transformed** space, of order greater than one, that approximates a trajectory curve in consonance with the criterion. A controller sets the parameters at values corresp. to a point in the transformed space and along the curve.

Title Terms: OPTIMUM; APPARATUS; SYSTEM; OPERATE; STATE; ADJUST; VALUE; SYSTEM; OPERATE; PARAMETER; SET; CONSTRAIN; MINIMISE; SET; OPERATE; CRITERIA; VALUE
Derwent Class: T01
International Patent Class (Additional): **G06F-015/20**
File Segment: EPI